



IFW

Docket No.: 13111-00005-US
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Burkhard et al.

Application No.: 10/525907

Confirmation No.: 5445

Filed: February 25, 2005

Art Unit: 1632

For: METHOD FOR THE PRODUCTION BY
FERMENTATION OF SULPHUR-
CONTAINING FINE CHEMICALS (METF)

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)).

Please note that the co-pending U.S. national stage applications referred to in the previously submitted Information Disclosure Statement have now received U.S. application serial numbers. Previously submitted PCT published application WO-2004/024932 corresponds to U.S. national stage application Serial No. 10/525,674 and PCT published application WO-2004/024933 corresponds to U.S. national stage application Serial No. 10/525,710.

Further note that PCT published application WO-2003/087386 enclosed herewith corresponds to U.S. national stage application Serial No. 10/511,302.

Of the documents listed on the attached SB/08 are the documents cited in the International Search Report during the prosecution of international application no. PCT/EP2003/009451, which corresponds to the above referenced application and which had not been previously submitted. In accordance with 37 CFR 1.97(b)(3), Applicants hereby submit these documents for the Examiner's consideration. A copy of each document required under 37 CFR 1.98(a)(2) is enclosed.

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such. Moreover, Applicants understand the Examiner will make an independent evaluation of the cited documents.

Applicants believe no fee is due. However, if a fee is due, the Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 03-2775, under Order No. 13111-00005-US, from which the undersigned is authorized to draw.

Respectfully submitted,

By 
Roberte M. D. Makowski, Ph.D.

Registration No.: 55,421
CONNOLLY BOVE LODGE & HUTZ LLP
1007 North Orange Street
P.O. Box 2207
Wilmington, Delaware 19899
(302) 658-9141
(302) 658-5614 (Fax)
Attorney for Applicants



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PTO/SB/92 (09-04)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Application No. (if known): 10/525907

Attorney Docket No.: 13111-00005-US

Certificate of Mailing under 37 CFR 1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on December 1, 2005
Date

Signature

Tina R. Hall

Typed or printed name of person signing Certificate

Registration Number, if applicable

(302) 658-9141
Telephone Number

Note: Each paper must have its own certificate of mailing, or this certificate must identify each submitted paper.

Information Disclosure Statement (2 pages)
SB/08 (4 pages)
Copies of References (65 references)
Post card



PTO/SB/08a/b (07-05)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete If Known	
				Application Number	10/525907-Conf. #5445
				Filing Date	February 25, 2005
				First Named Inventor	Burkhard Kröger
				Art Unit	1632
				Examiner Name	Not Yet Assigned
Sheet	1	of	4	Attorney Docket Number	13111-00005-US

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	AA*	US-5,175,108	12-29-1992	Bachmann et al.	
	AB*	US-4,601,893	07-22-1986	Cardinal	
	AC*	US-5,965,391	10-12-1999	Reinscheid et al.	
	AD*	US-4,489,160	12-18-1984	Katsumata et al.	
	AE*	US-5,158,891	10-27-1992	Takeda et al.	
	AF*	US-2003/0170775-A1	09-11-2003	Pompejus, et al.	
	AG*	US 10/511,302		Kröger et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
	BA	JP-10-229891-A	09-02-1998	Mitsubishi Rayon Co., Ltd.		See Abstract.
	BB	EP-1108790-A2	06-20-2001	Kyowa Hakko Kogyo Co., Ltd.		
	BC	WO-96/15246-A1	05-23-1996	Forschungszentrum Jülich GmbH		See US 5,965,391.
	BD	WO-03/100072-A2	12-04-2003	BASF Aktiengesellschaft		
	BE	WO-2003/087386-A3	10-23-2003	BASF Aktiengesellschaft		See US 10/511,302
	BF	EP-0472869-A2	03-04-1992	Degussa AG		See US 5,175,108.
	BG	DE-10046870-A1	03-28-2002	BASF Aktiengesellschaft		See US- 2003/0170775- A1.

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. *CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T ²
	CA	KRÄMER, R., "Genetic and physiological approaches for the production of amino acids", Journal of Biotechnology, Vol. 45, 1996, pp. 1-21.			
	CB	MATTHEWS, R. G., ET AL., "Methylenetetrahydrofolate reductase and methionine synthase: biochemistry and molecular biology", Eur. J. Pediatr., Vol. 157, Suppl. 2, 1998, pp. S54-S59.			
	CC	TRIMMER, E. E., ET AL., "Methylenetetrahydrofolate Reductase from <i>Escherichia coli</i> : Elucidation of the Kinetic Mechanism by Steady-State and Rapid-Reaction Studies", Biochemistry, Vol. 40, 2001, pp. 6205-6215.			
	CD	MATTHEWS, R. G., "Methylenetetrahydrofolate Reductase from Pig Liver", Methods in			

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

425728

Substitute for form 1449A/B/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Application Number	10/525907-Conf. #5445
				Filing Date	February 25, 2005
				First Named Inventor	Burkhard Kröger
				Art Unit	1632
				Examiner Name	Not Yet Assigned
Sheet	2	of	4	Attorney Docket Number	13111-00005-US

		Enzymology, Vol. 122, pp. 372-381.	
CE	SAHM, H., ET AL., "Pathway Analysis and Metabolic Engineering in <i>Corynebacterium glutamicum</i> ", Biol. Chem., Vol. 381, 2000, pp. 899-910.		
CF	EIKMANN, B. J., ET AL., "Molecular Aspects of lysine, threonine, and isoleucine biosynthesis in <i>Corynebacterium glutamicum</i> ", Atonie van Leeuwenhoek, Vol. 64, 1993, pp. 145-163.		
CG	PEARSON, W. R., ET AL., "Improved tools for biological sequence comparison", Proc. Natl. Acad. Sci. USA, Vol. 85, 1988, pp. 2444-2448.		
CH	NARANG, S. A., "Tetrahedron Report Number 140 - DNA Synthesis", Tetrahedron, Vol. 39, No. 1, 1983, pp. 3-22.		
CI	ITAKURA, K., ET AL., "Synthesis and Use of Synthetic Oligonucleotides", Ann. Rev. Biochem., Vol. 53, 1984, pp. 323-356.		
CJ	ITAKURA, K., ET AL., "Expression in <i>Escherichia coli</i> of a Chemically Synthesized Gene for the Hormone Somatostatin", Science, Vol. 198, 1977, pp. 1056-1063.		
CK	IKE, Y., ET AL., "Solid phase synthesis of polynucleotides. VIII. Synthesis of mixed oligodeoxyribonucleotides by the phosphotriester solid phase method", Nucleic Acids Research, Vol. 11, No. 2, 1983, pp. 477-488.		
CL	ARKIN, A. P., ET AL., "An algorithm for protein engineering: Simulations of recursive ensemble mutagenesis", Proc. Natl. Acad. Sci., USA, Vol. 89, 1992, pp. 7811-7815.		
CM	DELAGRAVE, S., ET AL., "Recursive ensemble mutagenesis", Protein Engineering, Vol. 6, No. 3, 1993, pp. 327-331.		
CN	KOHARA, Y., ET AL., "The Physical Map of the Whole E. coli Chromosome: Application of a New Strategy for Rapid Analysis and Sorting of a Large Genomic Library", Cell, Vol. 50, 1987, pp. 495-508.		
CO	WAHL, G. M., ET AL., "Cosmid vectors for rapid genomic walking, restriction mapping, and gene transfer", Proc. Natl. Acad. Sci. USA, Vol. 84, 1987, pp. 2160-2164.		
CP	BOLIVAR, F., "Molecular Cloning Vectors Derived From The CoLE1 Type Plasmid pMB1", Life Sciences, Vol. 25, 1979, pp. 807-817.		
CQ	VIEIRA, J., ET AL., "The pUC plasmids, an M13mp7-derived system for insertion mutagenesis and sequencing with synthetic universal primers", Gene, Vol. 19, 1982, pp. 259-268.		
CR	GRANT, S. G. N., ET AL., "Differential plasmid rescue from transgenic mouse DNAs into <i>Escherichia coli</i> methylation-restriction mutants", Proc. Natl. Acad. Sci. USA, Vol. 87, 1990, pp. 4645-4649.		
CS	SANGER, F., ET AL., "DNA sequencing with chain-terminating inhibitors", Proc. Natl. Acad. Sci. USA, Vol. 74, No. 12, 1977, pp. 5463-5467.		
CT	STADEN, R., "The current status and portability of our sequence handling software", Nucleic Acids Research, Vol. 14, No. 1, 1986, pp. 217-231.		
CU	MARCK, C., "DNA Strider: a 'C' program for the fast analysis of DNA and protein sequences on the Apple Macintosh family of computers", Nucleic Acids Research, Vol. 16, No. 5, 1988, pp. 1829-1836.		
CV	BUTLER, B. A., "Sequence Analysis Using GCG", Methods of Biochemical Analysis, Vol. 39, 1998, pp. 74-97.		
CW	LIEBL, W., ET AL., "Transfer of <i>Brevibacterium divaricatum</i> DSM 20297 ¹ , <i>Brevibacterium flavum</i> DSM 20411, <i>Brevibacterium lactofermentum</i> DSM 20412 and DSM 1412, and <i>Corynebacterium lilium</i> DSM 20137 ¹ to <i>Corynebacterium glutamicum</i> and Their Distinction by rRNA Gene Restriction Patterns", International Journal of Systematic Bacteriology, Vol. 41, No. 2, 1991, pp. 255-260.		
CX	BEN-BASSAT, A., ET AL., "Processing of the Initiation Methionine from Proteins: Properties of the <i>Escherichia coli</i> Methionine Aminopeptidase and Its Gene Structure", Journal of Bacteriology, Vol. 169, No. 2, 1987, pp. 751-757.		
CY	O'REGAN, M., ET AL., "Cloning and nucleotide sequence of the phosphoenolpyruvate		

Examiner Signature	Date Considered
--------------------	-----------------

Substitute for form 1449A/B/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Application Number	10/525907-Conf. #5445
				Filing Date	February 25, 2005
				First Named Inventor	Burkhard Kröger
				Art Unit	1632
				Examiner Name	Not Yet Assigned
Sheet	3	of	4	Attorney Docket Number	13111-00005-US

		carboxylase-coding gene of <i>Corynebacterium glutamicum</i> ATCC13032", Gene, Vol. 77, 1989, pp. 237-251.	
	CZ	SAHIN-TOTH, M., ET AL., "Cysteine scanning mutagenesis of the N-terminal 32 amino acid residues in the lactose permease of <i>Escherichia coli</i> ", Protein Sciences, Vol. 3, 1994, pp. 240-247.	
	CA1	HOCHULI, E., ET AL., "Genetic Approach to Facilitate Purification of Recombinant Proteins With a Novel Metal Chelate Adsorbent", Biotechnology, Vol. 6, 1988, pp. 1321-1325.	
	CB1	MARTIN, J.F., ET AL., "Cloning Systems in Amino Acid-Producing <i>Corynebacteria</i> ", Biotechnology, Vol. 5, 1987, pp. 137-146.	
	CC1	GUERRERO, C., ET AL., "Directed mutagenesis of a regulatory palindromic sequence upstream from the <i>Brevibacterium lactofermentum</i> tryptophan operon", Gene, Vol. 138, 1994, pp. 35-41.	
	CD1	TSUCHIYA, M., ET AL., "Genetic Control Systems of <i>Escherichia coli</i> Can Confer Inducible Expression of Cloned Genes in Coryneform Bacteria", Biotechnology, Vol. 6, 1988, pp. 428-430.	
	CE1	EIKMANN, B. J., ET AL., "A family of <i>Corynebacterium glutamicum</i> / <i>Escherichia coli</i> shuttle vectors for cloning, controlled gene expression, and promoter probing", Gene, Vol. 102, 1991, pp. 93-98.	
	CF1	SCHWARZER, A., ET AL., "Manipulation of <i>Corynebacterium glutamicum</i> by Gene Disruption and Replacement", Biotechnology, Vol. 9, 1991, pp. 84-87.	
	CG1	REINSCHIED, D. J., ET AL., "Stable Expression of <i>hom-1-thrB</i> in <i>Corynebacterium glutamicum</i> and Its Effect on the Carbon Flux to Threonine and Related Amino Acids", Applied and Environmental Microbiology, Vol. 60, No. 1, 1994, pp. 126-132.	
	CH1	LABARRE, J., ET AL., "Gene Replacement, Integration, and Amplification at the <i>gdhA</i> Locus of <i>Corynebacterium glutamicum</i> ", Journal of Bacteriology, 1993, Vol. 175, No. 4, pp. 1001-1007.	
	CI1	MALUMBRES, M., ET AL., "Codon preference in <i>Corynebacteria</i> ", Gene, Vol. 134, 1993, pp. 15-24.	
	CJ1	JENSEN, P. R., ET AL., "Artificial Promoters for Metabolic Optimization", Biotechnology and Bioengineering, Vol. 58, 1998, pp. 191-195.	
	CK1	MAKRIDES, S. C., "Strategies for Achieving High-Level Expression of Genes in <i>Escherichia coli</i> ", Microbiological Reviews, Vol. 60, No. 3, 1996, pp. 512-538.	
	CL1	PATEK, M., ET AL., "Promoters from <i>Corynebacterium glutamicum</i> : cloning, molecular analysis and search for a consensus motif", Microbiology, 1996, Vol. 142, pp. 1297-1309.	
	CM1	SONNEN, H., ET AL., "Characterization of pGA1, a new plasmid from <i>Corynebacterium glutamicum</i> LP-6", Gene, Vol. 107, 1991, pp. 69-74.	
	CN1	SERWOLD-DAVIS, T. M., ET AL., "Localization of an origin of replication in <i>Corynebacterium diphtheriae</i> broad host range plasmid pNG2 that also functions in <i>Escherichia coli</i> ", FEMS Microbiology Letters, Vol. 66, 1990, pp. 119-124.	
	CO1	SIMON, R., ET AL., "A Broad Host Range Mobilization System for <i>In Vivo</i> Genetic Engineering: Transposon Mutagenesis in Gram Negative Bacteria", Biotechnology, Vol. 1, 1983, pp. 784-791.	
	CP1	SCHÄFER, A., ET AL., "Small mobilizable multi-purpose cloning vectors derived from the <i>Escherichia coli</i> plasmids pK18 and pK19: selection of defined deletions in the chromosome of <i>Corynebacterium glutamicum</i> ", Gene, Vol. 145, 1994, pp. 69-73.	
	CQ1	BERNARD, P., ET AL., "The F Plasmid CcdB Protein Induces Efficient ATP-dependent DNA Cleavage by Gyrase", J. Mol. Biol., Vol. 234, 1993, pp. 534-541.	
	CR1	SCHRUMPF, B., ET AL., "A Functionally Split Pathway for Lysine Synthesis in <i>Corynebacterium glutamicum</i> ", Journal of Bacteriology, Vol. 173, No. 14, 1991, pp. 4510-4516.	
	CS1	SPRATT, B. G., "Kanamycin-resistant vectors that are analogues of plasmids pUC8, pUC9,	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete If Known	
				Application Number	10/525907-Conf. #5445
				Filing Date	February 25, 2005
				First Named Inventor	Burkhard Kröger
				Art Unit	1632
				Examiner Name	Not Yet Assigned
Sheet	4	of	4	Attorney Docket Number	13111-00005-US

		pEMBL8 and pEMBL9", Gene, Vol. 41, 1986, pp. 337-342.	
CT1		THIERBACH, G., ET AL., "Transformation of spheroplasts and protoplasts of <i>Corynebacterium glutamicum</i> ", Appl. Microbiol. Biotechnol., Vol. 29, 1988, pp. 356-362.	
CU1		DUNICAN, L. K., ET AL., "High Frequency Transformation of Whole Cells of Amino Acid Producing Coryneform Bacteria Using High Voltage Electroporation", Biotechnology, Vol. 7, 1989, pp. 1067-1070.	
CV1		TAUCH, A., ET AL., " <i>Corynebacterium glutamicum</i> DNA is subjected to methylation-restriction in <i>Escherichia coli</i> ", FEMS Microbiology Letters, Vol. 123, 1994, pp. 343-347.	
CW1		MOTOYAMA, H., ET AL., "Overproduction of L-Lysine from Methanol by <i>Methylobacillus glycogenes</i> Derivatives Carrying a Plasmid with a Mutated <i>dapA</i> Gene", Applied and Environmental Microbiology, Vol. 67, No. 7, 2001, pp. 3064-3070.	
CX1		EIKMANN, B. J., "Identification, Sequence Analysis, and Expression of a <i>Corynebacterium glutamicum</i> Gene Cluster Encoding the Three Glycolytic Enzymes Glyceraldehyde-3-Phosphate Dehydrogenase, 3-Phosphoglycerate Kinase, and Triosephosphate Isomerase", Journal of Bacteriology, Vol. 174, No. 19, 1992, pp. 6076-6086.	
CY1		PATEK, M., ET AL., "Leucine Synthesis in <i>Corynebacterium glutamicum</i> : Enzyme Activities, Structure of <i>leuA</i> , and Effect of <i>leuA</i> Inactivation on Lysine Synthesis", Applied and Environmental Microbiology, Vol. 60, No. 1, 1994, pp. 133-140.	
CZ1		MALAKHOVA, I. I., ET AL., "Thin-Layer Chromatography of Free Amino Acids. Selection of Conditions for the Separation of L-Lysine, L-Homoserine, and L-Threonine", Biotekhnologiya, Vol. 11, 1996, pp. 27-31.	
CA2		SCHMIDT, S., ET AL., "Near infrared spectroscopy in fermentation and quality control for amino acid production", Bioprocess Engineering, Vol. 19, 1998, pp. 67-70.	
CB2		LENNOX, E.S., "Transduction of Linked Genetic Characters of the Host by Bacteriophage P1", Virology, Vol. 1, 1955, pp. 190-206.	
CC2		TAUCH, A., ET AL., "The Erythromycin Resistance Gene of the <i>Corynebacterium xerosis</i> R-plasmid pTP10 Also Carrying Chloramphenicol, Kanamycin, and Tetracycline Resistances is Capable of Transposition in <i>Corynebacterium glutamicum</i> ", Plasmid, Vol. 33, 1995, pp. 168-179.	
CD2		LIEBL, W., ET AL., "High efficiency electroporation of intact <i>Corynebacterium glutamicum</i> cells", FEMS Microbiology Letters, Vol. 65, 1989, pp. 299-303.	
CE2		KASE, H., ET AL., "L-Methionine Production by Methionine Analog-resistant Mutants of <i>Corynebacterium glutamicum</i> ", Agr. Biol. Chem., Vol. 39, No. 1, 1975, pp. 153-160.	
CF2		EIKMANN, B. J., ET AL., "Nucleotide sequence, expression and transcriptional analysis of the <i>Corynebacterium glutamicum gltA</i> gene encoding citrate synthase", Microbiology, Vol. 140, 1994, pp. 1817-1828.	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature		Date Considered	
--------------------	--	-----------------	--